



## 9.21 Township of Stillwater

This section presents the jurisdictional annex for the Township of Stillwater.

### 9.21.1 Hazard Mitigation Plan Point of Contact

The following individuals have been identified as the hazard mitigation plan’s primary and alternate points of contact.

Primary Point of Contact	Alternate Point of Contact
Timmy Lee Fisher, Mayor 964 Stillwater Road, Newton, NJ 07860 Phone: (973) 579-5080 Email: <a href="mailto:clerk@stillwatertwp.com">clerk@stillwatertwp.com</a>	Lynda Knott, Municipal Clerk 964 Stillwater Road, Newton, NJ 07860 Phone: (973) 383-9484 Email: <a href="mailto:clerk@stillwatertwp.com">clerk@stillwatertwp.com</a>

### 9.21.2 Municipal Profile

Stillwater Township is located in southwest Sussex County. It covers an area of 27.1 square miles and is bordered to the north by Sandyston Township, to the east by Frankford and Hampton Townships, to the south by Warren County, and to the west by Warren County and Walpack Township. According to the U.S. Census, the 2010 population for the Township of Stillwater was 4,099. The following unincorporated communities are located within the Township: Five Points, Swartswood, Paulinskill, Middleville, and Stillwater. There are many streams located throughout the Township and include: Blair Creek and its tributaries, Trout Brook and its tributaries, Swartswood Creek and its tributaries, Troy Brook and its tributaries, and Paulins Kill and its tributaries.

### Growth/Development Trends

The Township of Stillwater did not note any recent residential/commercial development since 2010 or any major residential or commercial development, or major infrastructure development planned for the next five years in the municipality.

### 9.21.3 Natural Hazard Event History Specific to the Municipality

Sussex County has a history of natural and non-natural hazard events as detailed in Volume I, Section 5.0 of this plan. A summary of historical events is provided in each of the hazard profiles and includes a chronology of events that have affected the County and its municipalities. For the purpose of this plan update, events that have occurred in the County from 2008 to present were summarized to indicate the range and impact of hazard events in the community. Information regarding specific damages is included, if available, based on reference material or local sources. This information is presented in the table below. For details of these and additional events, refer to Volume I, Section 5.0 of this plan.

Table 9.21-1. Hazard Event History

Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
August 27 – October 6, 2011	Hurricane Irene / Lee	DR-4021 (Irene) DR-4039 (Lee)	Yes	Power outages up to 19 days; flooding throughout the Township. The fire departments in the Township were opened as shelters for residents. Creeks overflowed their banks and creating their own paths. Roadways washed out and the Township had to replace catch basins. Approximately \$100,000 in overtime and costs to the Township.



Date(s) of Event	Event Type	FEMA Declaration # (If Applicable)	County Designated?	Summary of Damages/Losses
October 29, 2011	Severe Storm	DR-4048	Yes	Power outages for several days; numerous downed trees and wires. The fire departments in the Township were opened as shelters for residents. Township had to conduct debris removal. Approximately \$15,000 in overtime and costs to the Township.
October 2012	Hurricane Sandy	DR-4086	Yes	Power outages for 14 days; many downed trees and power lines. The fire departments in the Township were opened as shelters for residents. Township conducted debris removal. Approximately \$65,000 in overtime and costs to the Township.

### 9.21.4 Hazard Vulnerabilities and Ranking

The hazard profiles in Section 5.0 of this plan have detailed information regarding each plan participant’s vulnerability to the identified hazards. The risk ranking methodology is presented in Section 5.3. However, each municipality had the opportunity to adjust the final ranking based on municipal feedback. The following summarizes the hazard vulnerabilities and their ranking in the Township of Stillwater. For additional vulnerability information relevant to this jurisdiction, refer to Section 5.0.

#### Hazard Risk/Vulnerability Risk Ranking

The table below summarizes the hazard risk/vulnerability rankings of potential hazards for the Township of Stillwater.

Table 9.21-2. Hazard Risk/Vulnerability Risk Ranking

Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Dam Failure	Damage estimate not available	Occasional	24	Medium
Drought	Damage estimate not available	Frequent	30	Medium
Earthquake	100-Year GBS: \$0 500-Year GBS: \$381,305 2,500-Year GBS: \$5,840,833	Occasional	28	Medium
Flood	1% Annual Chance: \$9,759,944	Frequent	18	Medium
Geologic	Exposed to Carbonate Rock Areas: \$511,409,996	Frequent	54	Medium*
Hurricane	100-year MRP: \$100,479 500-year MRP: \$1,447,091 Annualized: \$8,210	Frequent	48	High
Nor'Easter	Damage estimate not available	Frequent	48	High
Severe Weather	100-Year MRP: \$100,479 500-year MRP: \$1,447,091 Annualized: \$8,210	Frequent	48	High
Severe Winter Weather	1% GBS: \$5,812,546 5% GBS: \$29,062,730	Frequent	51	High



Hazard type	Estimate of Potential Dollar Losses to Structures Vulnerable to the Hazard <sup>a, c</sup>	Probability of Occurrence	Risk Ranking Score (Probability x Impact)	Hazard Ranking <sup>b</sup>
Wildfire	Estimated Value in the Extreme, Very High, and High Hazard Areas: \$48,558,461	Frequent	24	Medium
Hazardous Materials	Damage estimate not available	Frequent	36	High

Notes:

\* The hazard ranking was changed for this hazard based on input from the municipality, population exposed, and/or event history.  
 GBS = General building stock; MRP = Mean return period.

- a. The general building stock valuation is based on the custom inventory generated for the municipality and based on improved value.
- b. High = Total hazard priority risk ranking score of 31 and above  
 Medium = Total hazard priority risk ranking of 15-30+  
 Low = Total hazard risk ranking below 15
- c. Loss estimates for the severe storm and severe winter storm hazards are structural values only and do not include the estimated value of contents. Loss estimates for the flood and earthquake hazards represent both structure and contents. Potential flood loss estimates were generated using Hazus-MH 3.0 and the 2011 FEMA DFIRM for the 1-percent annual chance event. For the geologic and wildfire hazards, the improved value and estimated contents of buildings located within the identified hazard zones is provided.

### National Flood Insurance Program (NFIP) Summary

The following table summarizes the NFIP statistics for the Township of Stillwater.

Table 9.21-3. NFIP Summary

Municipality	# Policies (1)	# Claims (Losses) (1)	Total Loss Payments (2)	# Rep. Loss Prop. (1)	# Severe Rep. Loss Prop. (1)	# Policies in 1% Flood Boundary (3)
Township of Stillwater	7	3	\$87,323	0	0	0

Source: FEMA, 2014

Note (1) Policies, claims, repetitive loss and severe repetitive loss statistics provided by FEMA and are current as of November 31, 2014 and are summarized by Community Name. Please note the total number of repetitive loss properties excludes the severe repetitive loss properties. The number of claims represents claims closed by 11/31/2014.

Note (2) Total building and content losses from the claims file provided by FEMA Region 2.

Note (3) The policies inside and outside of the flood zones is based on the latitude and longitude provided by FEMA Region 2 in the policy file.

Note (4) FEMA noted that where there is more than one entry for a property, there may be more than one policy in force or more than one GIS possibility.

### Critical Facilities

There are no critical facilities located in the FEMA 1% or 0.2% annual chance boundary.

### Other Vulnerabilities Identified by Municipality

The hazard profiles in Section 5.0 have detailed information regarding each plan participant’s vulnerability to the identified hazards. Further, mitigation projects have been identified that may more specifically detail vulnerabilities in the community. There are no additional vulnerabilities identified at this time.



### 9.21.5 Capability Assessment

This section identifies the following capabilities of the local jurisdiction:

- Planning and regulatory capability
- Administrative and technical capability
- Fiscal capability
- Education/Outreach and Community classification
- Self-Assessment of Capability
- National Flood Insurance Program
- Community Rating System
- Integration of Mitigation Planning into Existing and Future Planning Mechanisms

#### Planning and Regulatory Capability

The table below summarizes the regulatory tools that are available to the Township of Stillwater.

**Table 9.21-4. Planning and Regulatory Tools**

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
<b>Planning Capability</b>				
Master Plan	Yes	Local	Planning Board	Re-Examination November 7, 2012
Capital Improvements Plan	Yes	Local	Engineering & DPW	Updated annually; April 2016
Floodplain Management/Basin Plan	No			
Stormwater Management Plan	Yes	Local	Engineer	Originally done in 2005; became part of Master Plan (included in reexamination)
Open Space Plan	Yes	Local	Planning Board and Environmental Commission	2012 – the ERI was updated in 2014
Stream Corridor Management Plan	No			
Watershed Management or Protection Plan	No			
Economic Development Plan	No			
Comprehensive Emergency Management Plan	Yes	Local	Emergency Management	2014
Emergency Response Plan	Yes	Local	Emergency Management	2014
Post-Disaster Recovery Plan	Yes	Local	Emergency Management	2014
Transportation Plan	No			
Strategic Recovery Planning Report	No			
Other Plans:	No			
<b>Regulatory Capability</b>				
Building Code	Yes	State & Local	Construction Official	State Uniform Construction Code Act (N.J.S. 52:27D-119 et seq.)



**Table 9.21-4. Planning and Regulatory Tools**

Tool/Program (code, ordinance, plan)	Do you have this? (Yes/No) If Yes, date of adoption or update	Authority (local, county, state, federal)	Dept./Agency Responsible	Code Citation and Comments (Code Chapter, name of plan, explanation of authority, etc.)
				Chapter 240 – Land Development
Zoning Ordinance	Yes	Local	Zoning Officer	Chapter 240, Article 11 – Land Development / Zoning
Subdivision Ordinance	Yes	Local	Zoning Officer	Chapter 240, Article 6 – Land Development / Subdivision and Site Plan Review and Approval
NFIP Flood Damage Prevention Ordinance	Yes	Local	Construction	Chapter 202 – Flood Damage Prevention
NFIP: Cumulative Substantial Damages	No			
NFIP: Freeboard	Yes	State		
Growth Management Ordinances	No			
Site Plan Review Requirements	Yes			
Stormwater Management Ordinance	Yes	Local		§240-89 – Stormwater management
Municipal Separate Storm Sewer System (MS4)	No			
Natural Hazard Ordinance	No			
Post-Disaster Recovery Ordinance	No			
Real Estate Disclosure Requirement	Yes	State	Division of Consumer Affairs	N.J.A.C. 13:45A-29.1
Other [Special Purpose Ordinances (i.e., sensitive areas, steep slope)]	Yes			Steep Slopes – Land Use ordinance within Township code

**Administrative and Technical Capability**

The table below summarizes potential staff and personnel resources available to the Township of Stillwater.

**Table 9.21-5. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/Agency/Position
<b>Administrative Capability</b>		
Planning Board	Yes	
Mitigation Planning Committee	No	
Environmental Board/Commission	Yes	
Open Space Board/Committee	Yes	
Economic Development Commission/Committee	No	
Maintenance Programs to Reduce Risk	Yes	
Mutual Aid Agreements	Yes	
<b>Technical/Staffing Capability</b>		
Planner(s) or Engineer(s) with knowledge of land development and land management practices	Yes	Professional contract



**Table 9.21-5. Administrative and Technical Capabilities**

Resources	Is this in place? (Yes or No)	Department/Agency/Position
Engineer(s) or Professional(s) trained in construction practices related to buildings and/or infrastructure	Yes	Professional contract
Planners or engineers with an understanding of natural hazards	Yes	Professional contract
NFIP Floodplain Administrator	Yes	Construction Official
Surveyor(s)	No	
Personnel skilled or trained in GIS and/or Hazus-MH applications	Yes	Township Engineer
Scientist familiar with natural hazards	No	
Emergency Manager	Yes	Joseph Sugar
Grant Writer(s)	No	
Staff with expertise or training in benefit/cost analysis	Yes	CFO
Professionals trained in conducting damage assessments	Yes	Engineer

**Fiscal Capability**

The table below summarizes financial resources available to the Township of Stillwater.

**Table 9.21-6. Fiscal Capabilities**

Financial Resources	Accessible or Eligible to Use (Yes/No/Don't Know)
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital Improvements Project Funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact Fees for homebuyers or developers of new development/homes	Yes – COAH fees
Stormwater Utility Fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other Federal or State Funding Programs	No
Open Space Acquisition Funding Programs	Yes
Other	No

**Education/Outreach and Community Classifications**

The table below summarizes education/outreach programs the community participates in and the classifications for community program available to the Township of Stillwater.

**Table 9.21-7. Education/Outreach and Community Classifications**

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Community Rating System (CRS)	No		



Table 9.21-7. Education/Outreach and Community Classifications

Program	Do you have/participate in this? (Yes/No)	Classification (if applicable)	Date Classified (if applicable)
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	4.4	2009; currently being updated
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	04/4X	July 1, 2014
Storm Ready	No		
Firewise	Yes – Lake Plymouth Community Association		2006
Disaster/Safety Programs in/for Schools	Yes		
Organizations with Mitigation Focus (advocacy group, non-government)	Yes		
Public Education Program/Outreach (through website, social media)	Yes		
Public-Private Partnerships	No		

The classifications listed above relate to the community’s ability to provide effective services to lessen its vulnerability to the hazards identified. These classifications can be viewed as a gauge of the community’s capabilities in all phases of emergency management (preparedness, response, recovery, and mitigation) and are used as an underwriting parameter for determining the costs of various forms of insurance. The Community Rating System (CRS) class applies to flood insurance while the Building Code Effectiveness Grading Schedule (BCEGS) and Public Protection classifications apply to standard property insurance. CRS classifications range on a scale of 1 to 10 with class 1 being the best possible classification, and class 10 representing no classification benefit. Firewise classifications include a higher classification when the subject property is located beyond 1,000 feet of a creditable fire hydrant and is within five road miles of a recognized fire station.

Criteria for classification credits are outlined in the following documents:

- The Community Rating System Coordinators Manual
- The Building Code Effectiveness Grading Schedule
- The ISO Mitigation online ISO’s Public Protection website at <http://www.isomitigation.com/ppc/0000/ppc0001.html>
- The National Weather Service Storm Ready website at <http://www.weather.gov/stormready/howto.htm>
- The National Firewise Communities website at <http://firewise.org/>

**Self-Assessment of Capability**

The table below provides an approximate measure of the Township of Stillwater’s capability to work in a hazard-mitigation capacity and/or effectively implement hazard mitigation strategies to reduce hazard vulnerabilities.





Table 9.21-8. Self-Assessment of Capability

Area	Degree of Hazard Mitigation Capability		
	Limited (If limited, what are your obstacles?)	Moderate	High
Planning and Regulatory Capability			X
Administrative and Technical Capability			X
Fiscal Capability	X – limited staff		
Community Political Capability			X
Community Resiliency Capability			X
Capability to Integrate Mitigation into Municipal Processes and Activities			X

**National Flood Insurance Program**

**NFIP Floodplain Administrator (FPA)**

James Cutler, Construction Official

**Flood Vulnerability Summary**

The Township does not maintain lists/inventories of properties that have been damaged by floods. During Irene and Lee, several private homes and one fire department building were damaged. The fire department had substantial damage and has been repaired using FEMA and township funds. It is unknown if there is any interest in mitigation (elevation or acquisition) in the Township.

**Resources**

The Construction Official is the appointed floodplain administrator for the Township. Lynda Knott, RMC (municipal clerk) provides assistance with the floodplain administrator’s responsibilities. NFIP administration services provided include permit review and inspections. The Township currently does not provide any education or outreach to the community regarding flood hazards/risk or flood risk reduction.

The FPA indicated that there are currently no barriers to running an effective floodplain management program in the Township; however, he does not feel adequately supported or trained to fulfill his responsibilities as the municipal floodplain administrator. The FPA indicated that he would consider attending continuing education and certification training if offered in the county.

**Compliance History**

Stillwater Township is currently in good standing with the NFIP; however, it is unknown as to when the most recent compliance audit was conducted.

**Regulatory**

The Township’s flood damage prevention ordinance meets the minimum set by FEMA and the State of New Jersey. There are no additional ordinances, plans or programs within the Township that support floodplain management.

**Community Rating System**

The Township of Stillwater does not participate in the Community Rating System (CRS) program.







## Integration of Hazard Mitigation into Existing and Future Planning Mechanisms

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into the day-to-day local government operations. As part of this planning effort, each community was surveyed to obtain a better understanding of their community's progress in plan integration. A summary is provided below. In addition, the community identified specific integration activities that will be incorporated into municipal procedures.

### Planning

**Land Use Planning:** The Township has a Planning Board and a Zoning Board which reviews all applications for development and consider natural hazard risk areas in their review.

**Stillwater Township Master Plan Reexamination 2012:** This plan included the reaffirmation of the goals and objective outlined in the 1999 Master Plan. It recommended that the Township adopt the update Recreation and Open space Plan as part of the Master Plan. The Open Space and Recreation Plan includes mapping and the identification of environmentally sensitive areas like floodplains that may be prone to hazards.

### Regulatory and Enforcement (Ordinances)

The Township has multiple chapters pertaining to the mitigation of hazards. These ordinances include the Flood Damage Prevention Chapter, Stormwater Control Chapter, and an Environmental Impact Statement requirement included in the Site Plan Review Chapter.

#### Chapter 202: Flood Damage Prevention

The purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

- A. To protect human life and health;
- B. To minimize expenditure of public money for costly flood control projects;
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- D. To minimize prolonged business interruptions;
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;
- F. To help maintain a stable tax base by providing for the alternate use and development of areas of special flood hazard so as to minimize future flood blight areas;
- G. To ensure that potential buyers are notified that property is in an area of special flood hazard; and
- H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

#### Chapter 240-89: Stormwater Management

The purposed of the Stormwater Control Chapter is to implement best management practices for stormwater management designed to promote the public health, safety and general welfare of the Township's citizens and businesses.

#### Chapter 240-85.: Environmentally Impact Statement

The purpose of this section of the Chapter is to allow the Township to assess the impact of a proposed development upon the natural environment. Before approving any major subdivision or any site plan that involves a nonresidential use in which there is proposed a new structure, an addition or alteration to an existing



structure, a change of use or an expansion of an existing use, the Planning Board shall take into consideration the effect of the proposal for development upon the natural environment, particularly with respect to potable water, pollution of all kinds, flooding, waste disposal, soil erosion and the preservation of trees and other vegetation.

### Operational and Administration

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The Township has established a Planning Board, Zoning Board and an Environmental Committee, that aid in planning decisions to support the conservation and preservation of the Township's critical environmental features. Beyond that the Township employs a Planning Board Secretary and contracts out for professional legal, planning, and engineering services for development review.

### Funding

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**Operating Budget:** The Township's operating budget contains minimal provisions for expected repairs like snow removal and infrastructure repair after a storm or natural disaster.

**Grants:** The Township has received funding from the NJDOT and The Garden State Preservation Trust Fund grant programs. The Township's 2014 Capital Budget includes line items for improvements to the Municipal Building, as well as a number of drainage and roadway improvements.

### Education and Outreach

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The Township's website posts information regarding upcoming community events and important municipal decisions on the home page.

The Township has identified two new mitigation initiatives related to outreach: 1) Provide hazard mitigation, preparedness and response information via social media and website; 2) Implement Fire Wise program. Refer to Table 9.21-11 for more information.

### Figure 9.21-1. Screenshot of Township Website with Examples of their Posted Mitigation/Emergency Information

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## 9.21.6 Mitigation Strategy and Prioritization

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This section discusses past mitigation actions and status, describes proposed hazard mitigation initiatives, and prioritization.

### Past Mitigation Initiative Status

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The following table indicates progress on the community's mitigation strategy identified in the 2011 Plan. Actions that are carried forward as part of this plan update are included in the following subsection in its own table with prioritization. Previous actions that are now on-going programs and capabilities are indicated as such in the following table and may also be found under 'Capability Assessment' presented previously in this annex.



Table 9.21-9. Past Mitigation Initiative Status

<u>Initiative Number</u>	<u>2011 Mitigation Action</u>	<u>Responsible Party</u>	<u>Status</u> (In progress, No progress, Complete)	<u>Describe Status</u> 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Stillwater Township 1	Retrofit doors and windows to meet FEMA hurricane resistant standards on Stillwater Township School located on Stillwater Road. Older section of building will need more extensive reconstruction.	School Board Administrator	Complete	This project has been completed.	Discontinue	This project has been completed and will not be included in the 2015 HMP Update.
Stillwater Township 2	Retrofit roof to meet current snow load standards on Swartswood Fire Department Fire Company located on County Route 612.	Station Commander	Complete	The Swartswood Fire Department is no longer recognized by the Township	Discontinue	
Stillwater Township 3	Retrofit roof to meet current snow load standards the Stillwater Fire Department located on Stillwater Road.	Station Commander	Complete	Completed – funded through the Stillwater Fire Department (they own the building)	Discontinue	This action has been completed and will not be included in the 2016 HMP update.
Stillwater Township 4	Streambank stabilization along the Paulinskill River at Kohlbocker Road.	Municipal Engineer	Complete	Funded through ANJEC grant and remainder by municipal budget	Discontinue	This project has been completed; therefore, it will not be included in the 2016 HMP update.
Stillwater Township 5	Stream-bank stabilization of Neldon’s Brook effecting Swartswood Fire Department Fire Company located on County Route 612.	Municipal Engineer	Complete	This project has been completed.	Discontinue	This project has been completed and will not be included in the 2015 HMP Update.
Stillwater Township 6	Flood proofing of two homes located West End Drive.	Municipal Engineer	No Progress	Engineer stated these houses need to be either elevated or acquired; flood proofing will not help.	Include in 2016 HMP	Mitigate (elevate or acquire) two homes on West End Drive



<u>Initiative Number</u>	<u>2011 Mitigation Action</u>	<u>Responsible Party</u>	<u>Status</u> (In progress, No progress, Complete)	<u>Describe Status</u> 1. Please describe what was accomplished and indicate % complete. 2. If there was no progress, indicate what obstacles/delays encountered? 3. If there was progress, how is/was the action being funded (e.g., FEMA HMGP grant, local budget)?	<u>Next Step</u> (Include in 2016 HMP? or Discontinue)	<u>Describe Next Step</u> 1. If including action in the 2015 HMP, revise/reword to be more specific (as appropriate). 2. If discontinue, explain why.
Stillwater Township 7	Implement Fire Wise Program throughout the Township.	OEM Coordinator	No Progress	Due to limited staff and funding, this project has not been completed.	Include in 2016 HMP	The Township will include this initiative in the 2015 HMP Update.
Stillwater Township 8	Conduct all-hazards public education and outreach program for hazard mitigation and preparedness.	OEM Coordinator, in coordination with SCDEM	No Progress	Due to limited staff and funding, this project has not been completed.	Include in 2016 HMP	The Township will include this initiative in the 2015 HMP Update.

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### **Completed Mitigation Initiatives not Identified in the Previous Mitigation Strategy**

The Township has identified the following mitigation projects/activities that have also been completed but were not identified in the previous mitigation strategy in the 2011 Plan:

- Culvert and basin upgrades replacements; debris removal; dead tree removal; oil/stone roadways each year to maintain their integrity.

### **Proposed Hazard Mitigation Initiatives for the Plan Update**

The Township participated in a mitigation action workshop in April 2015 and was provided the following FEMA publications to use as a resource as part of their comprehensive review of all possible activities and mitigation measures to address their hazards: FEMA 551 'Selecting Appropriate Mitigation Measures for Floodprone Structures' (March 2007) and FEMA 'Mitigation Ideas – A Resource for Reducing Risk to Natural Hazards' (January 2013). In May 2015, the Township participated in a second workshop led by FEMA Region 2 and NJOEM and was provided the results to the risk assessment to further assist with the identification of mitigation actions.

Table 9.21-10 summarizes the comprehensive-range of specific mitigation initiatives the Township would like to pursue in the future to reduce the effects of hazards. Some of these initiatives may be previous actions carried forward for this plan update. These initiatives are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in municipal priorities. Both the four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table below to further demonstrate the wide-range of activities and mitigation measures selected.

As discussed in Section 6, 14 evaluation/prioritization criteria are used to complete the prioritization of mitigation initiatives. For each new mitigation action, a numeric rank is assigned (-1, 0, or 1) for each of the 14 evaluation criteria to assist with prioritizing your actions as 'High,' 'Medium,' or 'Low.' The table below summarizes the evaluation of each mitigation initiative, listed by Action Number.

Table 9.21-11 provides a summary of the prioritization of all proposed mitigation initiatives for the Plan update.



Table 9.21-10. Proposed Hazard Mitigation Initiatives

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Lead and Support Agencies	Estimated Benefits	Estimated Cost	Sources of Funding	Timeline	Priority	Mitigation Category	CRS Category
Stillwater-1	Ensure continuity of operations at critical facilities. The following location is identified at this time: Stillwater Township Town Hall Generator	Existing	All	1, 2, 6	Township Committee	High	Medium	Bond, FEMA HMGP funding	Short Term (2 years)	High	SIP	PP
Stillwater-2	Provide information on all types of hazards, preparedness and mitigation measures, and responses through social media and on the Township website.	N/A	All	All	Township	High	Low	Township Budget	On Going	High	LPR, EAP	PR, PI
Stillwater-3	Implement Fire Wise Program throughout the Township.	N/A	Wildfire	1, 2, 3, 5	Township	Medium	Low to Medium	Township Budget	Short Term / DOF	Medium	EAP	PI
Stillwater-4	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition/relocation to protect structures from future damage. Phase 1: Identify appropriate candidates and determine most cost-effective mitigation option. Phase 2: Work with the property owners to implement selected action based on available funding and local match availability.											
	See above.	Existing	Flood	1, 2	Township / Homeowner	High	High	FEMA Mitigation Grant Programs and local budget (or property owner) for cost share	Ongoing (outreach and specific project identification); Long term DOF (specific project application and implementation)	Medium	SIP	PP

Notes:

Not all acronyms and abbreviations defined below are included in the table.

\*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure? Not applicable (N/A) is inserted if this does not apply.

Acronyms and Abbreviations:

- CRS Community Rating System
- DPW Department of Public Works
- FEMA Federal Emergency Management Agency
- FPA Floodplain Administrator
- HMA Hazard Mitigation Assistance
- N/A Not applicable
- NFIP National Flood Insurance Program
- NJDEP New Jersey Department of Environmental Protection
- NJOEM New Jersey Office of Emergency Management
- OEM Office of Emergency Management

Potential FEMA HMA Funding Sources:

- FMA Flood Mitigation Assistance Grant Program
- HMGP Hazard Mitigation Grant Program
- PDM Pre-Disaster Mitigation Grant Program
- RFC Repetitive Flood Claims Grant Program (discontinued)
- SRL Severe Repetitive Loss Grant Program (discontinued)

Timeline:

- Short 1 to 5 years
- Long Term 5 years or greater
- OG On-going program
- DOF Depending on funding





Costs:

Where actual project costs have been reasonably estimated:

- Low < \$10,000
- Medium \$10,000 to \$100,000
- High > \$100,000

Where actual project costs cannot reasonably be established at this time:

- Low Possible to fund under existing budget. Project is part of, or can be part of an existing on-going program.
- Medium Could budget for under existing work plan, but would require a reapportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.
- High Would require an increase in revenue via an alternative source (i.e., bonds, grants, fee increases) to implement. Existing funding levels are not adequate to cover the costs of the proposed project.

Benefits:

Where possible, an estimate of project benefits (per FEMA's benefit calculation methodology) has been evaluated against the project costs, and is presented as:

- Low= < \$10,000
- Medium \$10,000 to \$100,000
- High > \$100,000

Where numerical project benefits cannot reasonably be established at this time:

- Low Long-term benefits of the project are difficult to quantify in the short term.
- Medium Project will have a long-term impact on the reduction of risk exposure to life and property, or project will provide an immediate reduction in the risk exposure to property.
- High Project will have an immediate impact on the reduction of risk exposure to life and property.

Mitigation Category:

- Local Plans and Regulations (LPR) – These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
- Structure and Infrastructure Project (SIP)- These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards.
- Natural Systems Protection (NSP) – These are actions that minimize damage and losses, and also preserve or restore the functions of natural systems.
- Education and Awareness Programs (EAP) – These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

CRS Category:

- Preventative Measures (PR)-Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
- Property Protection (PP)-These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- Public Information (PI)-Actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
- Natural Resource Protection (NR)-Actions that minimize hazard loss and also preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- Structural Flood Control Projects (SP)-Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Emergency Services (ES)-Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities



Table 9.21-11. Summary of Prioritization of Actions

Mitigation Action / Project Number	Mitigation Action/Initiative	Life Safety	Property Protection	Cost-Effectiveness	Technical	Political	Legal	Fiscal	Environmental	Social	Administrative	Multi-Hazard	Timeline	Agency Champion	Other Community Objectives	Total	High/Medium/Low
Stillwater-1	Stillwater Township Town Hall Generator	1	1	1	0	1	1	1	1	1	1	1	1	1	1	13	High
Stillwater-2	Provide information on all types of hazards, preparedness and mitigation measures, and responses through social media and on the Township website.	1	1	1	1	1	1	1	0	1	1	1	1	1	0	12	High
Stillwater-3	Implement Fire Wise Program throughout the Township.	1	1	1	1	0	0	1	1	0	1	0	1	0	0	8	Medium
Stillwater-4	Support the mitigation of vulnerable structures via retrofit (e.g. elevation, flood-proofing) or acquisition / relocation to protect structures from future damage.	1	1	1	0	0	0	0	0	0	1	0	1	1	0	6	Medium

Note: Refer to Section 6 which contains the guidance on conducting the prioritization of mitigation actions.







### **9.21.7 Future Needs To Better Understand Risk/Vulnerability**

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None at this time.

### **9.21.8 Hazard Area Extent and Location**

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Hazard area extent and location maps have been generated for the Township of Stillwater that illustrate the probable areas impacted within the municipality. These maps are based on the best available data at the time of the preparation of this plan, and are considered to be adequate for planning purposes. Maps have only been generated for those hazards that can be clearly identified using mapping techniques and technologies, and for which the Township of Stillwater has significant exposure. These maps are illustrated in the hazard profiles within Section 5.4, Volume I of this Plan.

### **9.21.9 Additional Comments**

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None at this time.

DRAFT



Figure 9.21-2. Township of Stillwater Hazard Area Extent and Location Map 1

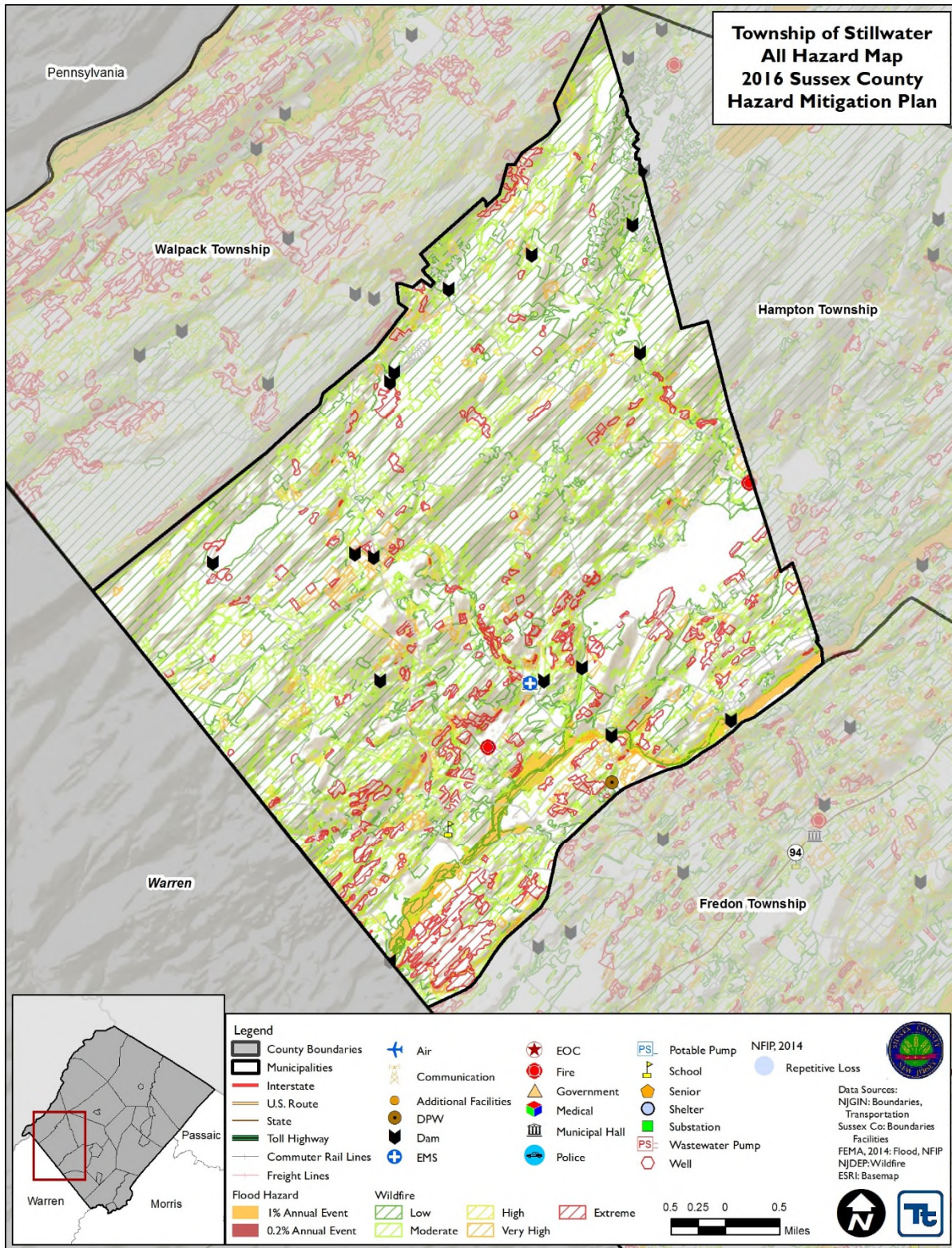
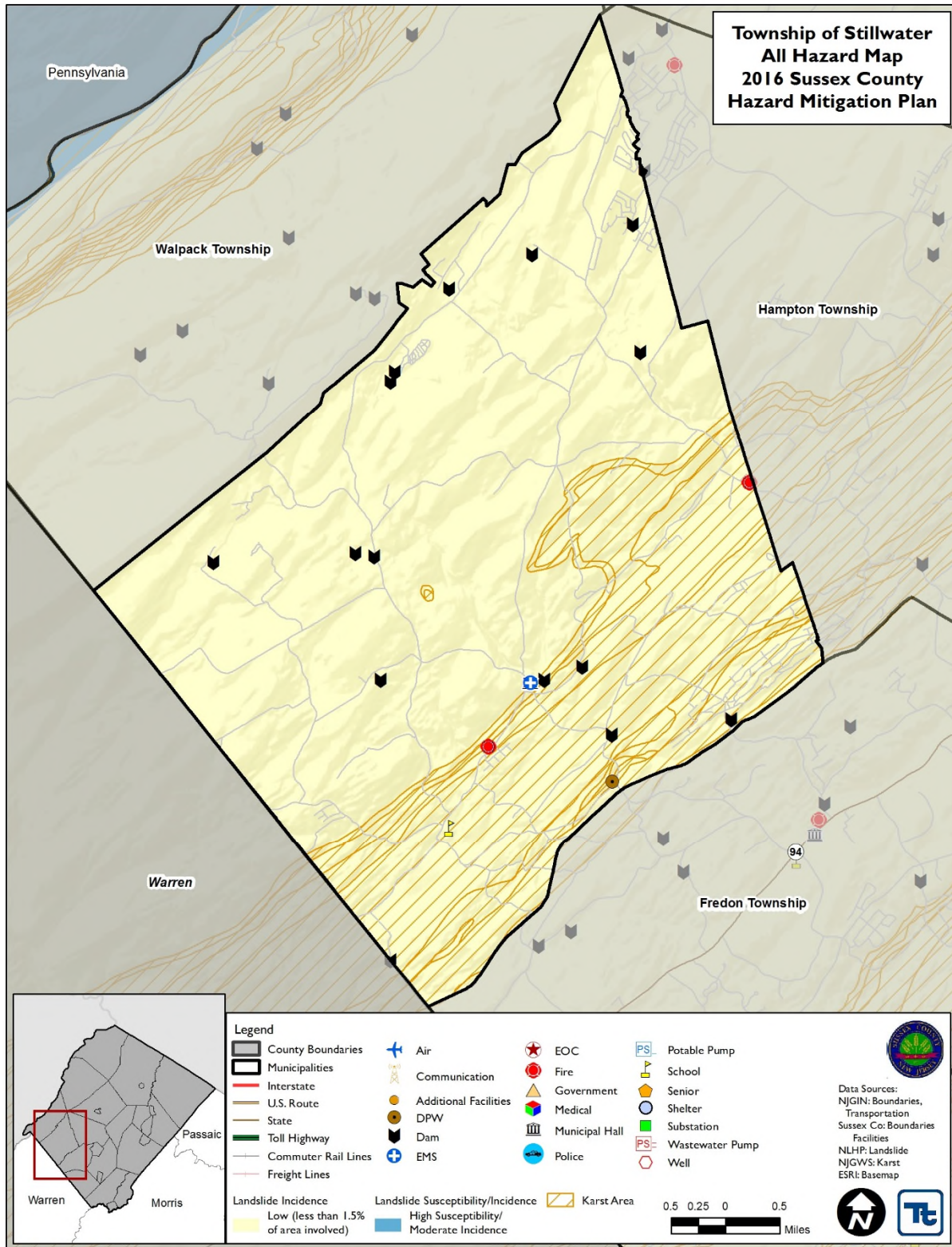




Figure 9.21-3. Township of Stillwater Hazard Area Extent and Location Map 2





**Action Number:** Stillwater-1  
**Mitigation Action/Initiative:** Generator for Town Hall

Assessing the Risk	
<b>Hazard(s) addressed:</b>	All
<b>Specific problem being mitigated:</b>	Ensure continuity of operations at critical facilities. The Township does not have backup power at Town Hall which serves as the EOC
Evaluation of Potential Actions/Projects	
<b>Actions/Projects Considered (name of project and reason for not selecting):</b>	<ol style="list-style-type: none"> <li>1. Purchase and install backup generator</li> <li>2. Building new EOC – not feasible; costly</li> <li>3. Do nothing – current problem continues</li> </ol>
Action/Project Intended for Implementation	
<b>Description of Selected Action/Project</b>	Purchase and install generator at the Stillwater Township Town Hall.
<b>Action/Project Category</b>	SIP
<b>Goals/Objectives Met</b>	1, 2, 6
<b>Applies to existing and/or new development; or not applicable</b>	Existing
<b>Benefits (losses avoided)</b>	High
<b>Estimated Cost</b>	Medium - \$45,000
<b>Priority</b>	High
Plan for Implementation	
<b>Responsible/Lead Agency/Department</b>	Township Committee
<b>Local Planning Mechanism</b>	Emergency Management
<b>Potential Funding Sources</b>	Bond, FEMA HMGP grant funding
<b>Timeline for Completion</b>	Short Term – 2 years
Reporting on Progress	
<b>Date of Status Report/ Report of Progress</b>	Date: 4/1/2016 Progress on Action/Project: Contractor to install generator in April 2016



**Action Number:** Stillwater-1

**Mitigation Action/Initiative:** Generator for Town Hall

Criteria	Numeric Rank (-1, 0, 1)	Provide brief rationale for numeric rank when appropriate
Life Safety	1	
Property Protection	1	
Cost-Effectiveness	1	
Technical	0	
Political	1	
Legal	1	
Fiscal	1	
Environmental	1	
Social	1	
Administrative	1	
Multi-Hazard	1	All hazards
Timeline	1	Project will be completed in two years
Local Champion	1	
Other Community Objectives	1	
Total	13	
<b>Priority (High/Med/Low)</b>	<b>High</b>	